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What Strawberries to Plant.

BY DR. F. M. HEXAMER.

EVERY Spring I receive scores of letters with the inquiry, what variety of Strawberry do you advise to plant? and invariably do I have to answer that no one variety suits all tastes, nor all soils and climates. The bearing season of any one variety is hardly longer than two weeks, so that to extend the luxury of Strawberries as long as possible it requires at least three varieties, under any circumstances.

From many years careful observation at our own Fruit farm, as well as from the results of fruit growing on soils different from ours, I recommend for general cultivation the following select list of Strawberries, as best adapted to the widest extent of territory and the different systems of cultivation.

For heavy soil.		For light soil.
	Early.	
Nicanor.		Downer.
	Medium or main crop.	
Wilson; Charles Downing.		Wilson; Charles Downing.
	Late.	
Triomphe de Gand; Jucunda.		Seth Boyden; Green Prolific.
	Latest.	
Napoleon III.		Kentucky.

All of these varieties are valuable for the market, on account of their firmness. In the home garden, however, where the hardness of the fruit is of but secondary importance, I would not omit the exquisitely aromatic "Black Defiance" and the pine-apple flavored "Lennig's White."

On the judicious selection of varieties and the quality of the plants depends much of the success of the Strawberry bed, but in many cases, much more on the right treatment of the plants when received from the nursery. Spring is the best time for

Floral Avenue in Grounds of Zoological Gardens, London.

planting. From the thawing of the ground till the opening of the blossoms the planting may be done with more safety than at any other season of the year. When the field or bed has been well prepared, by deep plowing or spading and thorough pulverization of the soil with intermixing of plenty of manure, the plants should be set out as soon as received. If, however, the ground is not ready, or for some other cause the planting has to be deferred, open the box or package *at once*. The plants may have become heated, and, as the temperature in the package increases, a few hours' delay may destroy their vitality. If the plants are found to be warm, open each bundle, take the plants apart and put them between cool, damp moss in a cellar. In this way they may be left for one or two days without injury, but when the planting to the permanent bed can not be done before several days, they should be heeled in carefully. With a spade or a hoe make a trench as deep as the roots of the plants are long, place the plants, with their roots straitened, along side of each other against one bank of the trench, and cover the roots about one inch deep with fine, pulverized soil, press this firmly down and fill up to the level. The soil must be well up and around the crowns of the plants, without covering them. Should the ground be very dry, a free watering in the evening will be beneficial. Thus plants may be left, without risk, for weeks, if necessary, but of course the sooner they are transferred to the permanent bed the better.

A Belgian Nursery-Man.

A CORRESPONDENT of the *Gardener's Chronicle* gives the following description of his visit to the famous establishment of the Messrs. Verschaffelt in Ghent, Belgium, and of what he saw there. It will be of interest to lovers of fine plants:

"Ghent, with its 200 horticultural establishments, must be the very paradise of nurserymen, and yet it does not seem by any means to have any exceptional advantages. What can have induced so many to form their establishments there more than at Antwerp or Brussels? Yet so it is, and with a light and sandy soil, with a climate which must be cold and damp in winter, the Ghent nurserymen have managed to gain for themselves a reputation which is world wide, and a success in some special form of culture in which they are well-nigh unapproachable. Where, for instance, are Camellias done as they are here? I have seen, doubtless, as fine plants elsewhere, but for quantity, neatness, and for vigor of growth, especially in small plants, we in vain look elsewhere for a parallel. It is from hence that those multitudes of small plants, which fill our London nurseries and Covent Garden in the season, come—'innocents,' too often, not indeed 'born to bloom unseen, and waste their sweetness on the desert air,' but doomed to the gaze of the company in crowded gas-lighted drawing-rooms, and then to perish—for hardy as the Camellia is, it will not bear all this; and then in Palms, in Cycads, in Agaves, where can we find anything like the amount of success or cultivation that we can in the Ghent establishments.

"Among the many 'Vans' and 'Vers,' the Van Houttes, Van Geerts, Verveane, Vandercruyssens, etc., who throng the list of Ghent nurserymen, that of Verschaffelt has long been honorably distinguished (has now passed into the hands of M. Linden);

and that of M. Jean Verschaffelt, of which I now write, are amongst the foremost of their class, and both at the great International Exhibition of 1866, and during the present season, the latter has shown the capabilities and resources of his establishment to the frequenters of the London shows, while the genial character of its proprietor has won for him many friends when he has come amongst us. His establishment, while not on so extensive a scale as Van Houtte's or his cousin's, is yet one of considerable magnitude, and the cultures to which he especially devotes himself are carried on with great care and energy, and he is continually importing from Mexico, Africa, Brazil, and other countries large specimens of many of them. Orchids are not much cultivated in Belgium, excepting at M. Linden's—whose collection of 1,260 species is perhaps unrivalled—to the same extent as in England. There are not so many amateurs, and the plants are, generally speaking, small, so that we should in vain look for such Orchid-houses as Veitch's, Williams', Bull's, or Rollison's; but M. Verschaffelt grows his at a moderate temperature, so that plants from here are the more likely to thrive than when grown in a higher temperature; but in his Orchid-house I noticed a few remarkable things. There was, for instance, a new plant from Guiana, somewhat in appearance like an Alocasia, but with leaves of such a substance that they might be very easily taken for leather, while the leaf-stalks were like those leathery stalks of seaweed so common on our shores; the genus of the plant does not seem as yet to be known. Here also were quantities of the curious Tillandsia argentea: some placed on the dead trunks of Tree Ferns looked remarkably well—in fact it seems most accomodating, for M. Verschaffelt assured me he had it in all sorts of ways, in Sphagnum, peat, on blocks of wood, on Tree Ferns, and never lost a plant, while he has got a large number of young plants; so that rootlets though they be, they multiply freely. Here also were good plants of Plumieria bicolor, an Apocynaceous plant, white with yellow center, very free flowering, and likely to be very useful as an ornamental plant. In another house I noticed some magnificent plants of the fine Crinum amabile. one of those fine old plants which novelties have elbowed out of the way; also a very remarkable Hemerocallis, with variegated foliage, one half of the leaf white, the other green, and with so curiously formed a growth, that looking at the back of the plant it seemed to be all white, and in the front all green. There were also some grand plants of Musa Enséte, a plant so valuable for subtropical gardening from its showy appearance and rapidity of growth.

"But the greater portion of the houses here are devoted to the growth of Palms, Cycads, Tree Ferns, and similar ornamental foliage plants, which are so much more valued on the Continent than with us, and magnificent indeed are some of the plants; while Palms for the million is no idle word, for here we see pots of Chamærops excelsa with 50 seedling plants for sale at 40 fr.; Phœnix dactylifera, the same; while Latania borbonica, Corypha australis, Chamærops Fortunei, were to be had by the thousand. Of Zamias, there were some magnificent specimens, both home-grown and imported specimens; amongst the most remarkable were Altensteini, cycadæfolia, horrida, and the very striking Lehmanni. I do not wonder at the admiration which these plants excite amongst the Continental horticulturists, and do very much wonder that those who have large conservatories with us do not grow them more than they

do. Of Tree Ferns, there were some fine specimens of Cibotium princeps, Dicksonia antarctica, Cyathea dealbata, and dealbata excelsa, although some of the large plants had just been sent away. The collection of Agaves is wonderful. M. Verschaffelt cultivates upwards of 100 species, and they are to be seen in all sizes, from the tiny seedling plant to large specimens. Of the latter he has some, such as dentata, for which he asks £40; of horrida (well named) an unique example; Kerchovei and Kerchovei macrodonta, very large; dealbata nana, very remarkable; latacincta, a dwarf species, a bright lustrous green, largely pencilled with white; Nissoni, with a large, deep, golden-yellow line in the center of the leaves; Verschaffeltii, of which there is a large quantity of imported plants, and one with golden-yellow bands on the leaves; while pulverulents, filifera, univittata, marginata, and other fine varieties, were to be seen in all sizes. Amongst them was a plant which had all the appearance at first of an Agave, but which was, in truth, Echeveria agavoides—one that is destined, if subtropical gardening holds its own with us, to be brought into extensive use. There are a couple of plants of it at Kew, and at another place on the Continent, but otherwise it is confined to this establishment. It was found impossible to propagate it in any way, but M. Verschaffelt received a quantity of seed from Mexico, and he has been enabled to raise a considerable quantity of young plants; out-of-doors it comes with a beautiful rosy margin, and I cannot but think that it will be a very interesting addition to our succulents for summer gardening.

"Passing to the out-of-door department, I saw a large quantity of those beautiful standard and pyramidal Bays, Portugal Laurels, and others for which the Ghent nurserymen are so famous, and which they do so well. Some plants here are worth 600f. the pair, and for terraces, for public places, where a regular form is desirable, they are admirably adapted. The standard Orange trees many saw at Kensington, not long ago, and although much admired, they did not find, as the Agaves did, purchasers. There were immense quantities of Dracæna indivisa, Camellias, of all sizes, and other cultures of a Belgian nursery. There were, also, some very beautiful varieties of the variegated form of Phormium tenax; two were especially noticeable—Cookii, dwarf, very pretty, and distinctly margined with brown; and one unnamed variety, with a splendid band of a rosy-yellow hue. There was, also, a variegated variety of Gnaphalium lanatum, which will be useful as a bedding plant; it is very free and very pretty. While speaking of the out-door department, I should say that M. Verschaffelt speaks in very warm terms of Delphinium nudicaule, introduced by Mr. Thompson, of Ipswich, considering it to be one of the best introductions of late years for the herbaceous border.

"I have thus endeavored to indicate some of the more remarkable features of this establishment, feeling, of course, that it is impossible in such a sketch to do anything like justice to its resources, and the value of its cultures; but, at the same time, desirous of informing those who have not visited Ghent, of some of those special cultures for which it has become famous."

Notes of a Trip to California and Oregon.

II.

BY J. A. DONALDSON.

(NOTE.—This article is continued from former article published in *Tilton's Journal of Horticulture.*)

AFTER securing "quarters" in a hotel, our first business was to visit the markets. Calling at several places where fruit is sold, we found on enquiry, that it was rather early in the season for Oregon fruits; and that the chief supply of pears, peaches, plums and grapes were from California. Apples raised in the vicinity were in plentiful supply, and peaches from east of the Cascade mountains were just beginning to come in.

A stranger cannot walk very far through the streets of Portland, without coming to the conclusion that Oregon is a favorable country for fruit; for wherever fruit trees are to be seen, whether large or small, they are loaded with fruit. On the grounds surrounding the residence of Hon. H. W. Corbett, we had an opportunity of examining a variety of fruits Apple trees, ten years planted, and growing in clover sod, were bearing profusely, yet very thrifty, some of them making shoots two and a half feet long.

Among the varieties grown, are the Baldwin, Roxbury Russett, Esopus Spitzenberg, Fall Pippin and Green Newtown Pippin. The latter, which is generally so imperfect and scabby at the East, was very smooth and fair. Mr. Corbett informed us that they were always so. Those three pests of the fruit-grower, the Codlin moth, Curculio and peach-borer, are unknown here. The pear trees, both dwarf and standard, were full of fruit. A Duchess d'Angouleme, on pear stock, planted at the same time the apple trees were, was full of beautiful specimens, many of which Mr. C. said would weigh two pounds when mature. The varieties of plums grown, are mostly Washington, Jefferson and Imperial Gage. Nothwithstanding that the trees were all overloaded they were making a good growth, and the fruit was of good size and quality.

The few peach trees on his grounds were healthy and thrifty, but bearing but very little. A serrate Early York had on a few specimens, finely colored and of extra size for the variety. The climate of the Willamette valley is not congenial to the peach. East of the Cascade Mountain in Eastern Oregon, they are cultivated successfully. On an arbor were Isabella, Hartford Prolific and Concord grape vines, with remarkably healthy foliage, and bearing heavily.

Mr. Corbett called our attention to some very fine elm-trees which he had brought over the Panama route ten years before, when only a few inches high, that are now from eight to ten inches in diameter.

The people here speak highly of the success of the sweet cherry. The trees are healthy and bear immense crops of fine fruit, free of course from worms, where the Curculio does not exist. We saw in bottles, specimens of two new varieties which originated in Western Oregon. One, a red cherry, was called the Royal Ann; the other was black, and named Black Republican. These cherries are highly spoken of, particularly the latter. A branch of the Royal Ann, twenty-two inches long, and weighing five pounds, was brought to Portland this Summer and photographed. It showed the branch to be a mass of fruit. Some friends who preceded us saw the

original branch, and confirm the above statement. Both of these cherries were introduced, and, we believe, originated by Mr. Lewelling, of Milwaukee, a few miles south of Portland.

We spent part of a day with Mr. Charles C. Coe, who resides twenty-five miles east of the Cascades in Eastern Oregon, on the Columbia river. Mr. Coe has quite an extensive orchard, planted by his father sixteen years before. His apple orchard was bearing good crops, and the fruit, considering the trees were in a clover field, was very fine. Among the varieties of pears are Vicar of Winkfield, Winter Nelis, Seckel, Bartlett and White Doyenne. Every tree was bending to the ground with fruit, although very little care or culture was given them. They were remarkably vigorous, and the fruit large and perfectly free from all imperfection; the White Doyenne as fair and smooth as any. Mr. Coe informed us that they were never troubled with blight, or cracking of the fruit. The Seckels were very fine; the largest we ever saw. But few varieties of peaches are cultivated in Mr. Coe's orchard. The Early Crawford was just beginning to ripen, and were being shipped to Portland. They were of good size and fine quality. A very fine seedling originated on the place, the fruit of which is deep yellow, large and beautiful, of very good quality; and ripening with the Early Crawford. A number of varieties of plums are grown, all heavily loaded with fine fruit.

Apricots and nectarines, Mr. C. informed us, do well in Eastern Oregon. Growing in the orchard is a California fig-tree bearing a moderate crop. It had been killed down for several winters, but the last two winters it had escaped injury, without protection. In the door-yard is an English walnut tree planted some ten or twelve years ago, very vigorous, but not bearing. The body is twelve inches in diameter, and the top about thirty feet across.

Mr. Coe's mother takes a great interest in the culture of flowers. By means of irrigation her flowering plants and shrubs are kept through the dry weather in a remarkably fresh and vigorous condition. Her perpetual rose bushes were the finest we ever saw.

A Giant of Battles, which was over six feet high, and *bushy* from the ground up, was blooming finely.

Early in the morning we bid adieu to this kind hearted and hospitable family, and took steamer for Portland. Quite a number of passengers on board had been up to view the Walla-Walla country, and all spoke highly of it.

Portland, Oregon, August 25, 1871.

AFTER long and patient experiment, a California horticulturist discovered that petroleum would kill the borer that infests the orchards of the Golden State. The fact was made known far and wide; and many fruit growers availed themselves of the valuable discovery. By their experiments the further fact was established that petroleum not only killed the borer, but the tree also.

Dwarf Apples.

BY P. C. REYNOLDS.

THE culture of Dwarf Apples has received much less attention in this country, than that of Dwarf Pears.

This is probably owing to the fact that they are a *cheaper* fruit, suited rather to the field than the garden. Yet there is a class, rapidly increasing, who seek by dwelling in the suburbs, or vicinities of villages and cities, to realize the advantages of both town and country.

To meet the wants of this class, I consider the Dwarf Apple especially adapted. As a feature of the landscape, an orchard of dwarf apple trees is very attractive, whether covered with leaves, blossoms, or fruit.

The stocks used to bud the apple on, to dwarf its growth, are of French origin, and bear small, indifferent fruit. The variety called Paradise, produces much the smaller tree, and is generally preferred.

The Doucain grows trees requiring about half as much space as a standard—are nearly as long coming into bearing—and do not live half as long, consequently offer but few inducements for planting them.

The Paradise is decidedly Dwarf, scarcely more than a bush, but just the thing for *garden* culture.

Propagation of Stocks.

Stocks of both varieties are propagated in nurseries, like the Quince, by cuttings, and stools or offsets.

The desired varieties of apples are *budded* into these stocks, just as pears are into the quince.

Soil and Culture.

Although Dwarf Apples do not require so strong a soil as pears, yet they should have a good garden soil, well drained, and deeply worked, and should be kept clean and mellow with hoe and cultivator, all through the season.

For a few years the tops should be shortened in, during suspension of growth, until a round, strong, compact head is formed, capable of sustaining a fair crop of fruit, after which an annual thinning out of sprouts and superfluous branches will be all that is necessary. I have no doubt that many of the failures of Dwarf Apple trees may be attributed to a lack of judicious pruning.

Varieties.

As *ornament* is almost as much an object in a dwarf apple garden as utility, the most beautiful varieties, that color up, and hang a long time upon the tree, should have preference. The following list embraces the most desirable varieties of this description: Red Astrachan, Alexander, Gravenstein, Fameuse, Twenty-Ounce, Baldwin, Canada Red, Jonathan, Hubbardston's Nonesuch, Wagener, King of Tompkins County.

As the same kind of fruit grows larger and fairer on dwarf than standard trees, the reader can imagine how the bright, showy red apples, named, must look on trees smaller than full grown quince bushes.

I think I never saw a handsomer fruit show than a garden of trees on Paradise stock, loaded with the Alexander apple.

Distance Apart to Plant.

For garden culture, where land is scarce, four by six feet apart, which would be at the rate of about eighteen hundred trees per acre, would be admissible. Where land is plentier, for orchard culture, perhaps eight by eight feet would be better, requiring about six hundred and eighty trees per acre.

Time of Coming into Bearing.

On Paradise stocks they commence bearing very young, often showing fruit in the nursery rows the third year from the bud. If transplanted two years from bud, they frequently begin to bear the next year. Of course, no sensible culturist would suffer them to bear more than three or four specimens while so young, and would be watchful for several years to see that they did not carry more fruit than they were able to sustain.

How Much do they Produce?

Full grown trees, ten or twelve years old, have yielded in the grounds of Ellwanger and Barry, in this city, a barrel of fruit to a tree. It will be seen that if a whole acre of six hundred and eighty trees would produce like that, the yield would be *enormous*, far exceeding an acre of the best orchards of standard trees, but somehow we can never get a whole acre of any kind of fruit to yield in proportion to a few favorable trees. A dwarf orchard, transplanted three years, might be expected to yield from six to a dozen specimens to a tree, and to increase for a dozen years, when from a peck to a bushel to a tree in a well managed orchard might reasonably be expected. For the first twenty years, an acre of dwarfs would probably yield a considerable more fruit than an acre of standards, after which they would begin to fail, and at the end of twenty-five years from transplanting, would not bear enough to pay for cumbering the ground.

Does it Pay?

Finally, how can we answer the universal Yankee question—"does it pay?" There are two views to be taken of this question. 1. Does it pay as a *business* investment. 2. Does it pay in that wider sense of yielding such a return in beauty, in enjoyment, in gratification as shall satisfy the planter that his money has been well expended. In the latter sense, I am well satisfied that it does pay. There is a gratification of inestimable value, in growing trees, shrubs, and flowers around your own home, and in eating of fruits of your own production, fresh from the trees that grow them. As enough of the finest of apples can be grown in quite a small garden of dwarfs, to supply an ordinary family, most men would be satisfied with the return they would receive for their money.

In determining whether it would pay as a business investment, we are to take into account—1. The much greater cost of planting an acre with dwarfs than standards. At the usual distance of planting standards—two rods each way—it only requires forty tree to an acre, which would cost about eight dollars.

If we should use six hundred and eighty dwarfs, at say fifteen cents each, they would amount to one hundred and two dollars. The cost of planting six hundred and eighty would be at least ten times as much as planting the forty.

2. The greater expense of cultivating and taking care of the greater number of dwarfs.

3. The loss of the use of the soil. With rows of trees two rods apart each way, for the first six years after planting, the loss in yield of corn, potatoes, or other *hoed* crops, need not average more than twenty-five per cent; while with rows of dwarfs eight feet apart, the loss must be from fifty to seventy-five per cent.

4. The fact that dwarfs are not more than half as long lived as the standards.

As an offset to all this, is the consideration that an orchard of dwarfs would probably bear enough fruit to pay the cost of trees, planting, cultivation, and rent of land, before standards began to bear, and for several years thereafter yield a much larger per cent on the investment.

A great argument, not yet mentioned, in favor of planting dwarf orchards, is the advantage that small, low trees would give us, in fighting the numerous insect enemies that depredate either upon the leaf or fruit of the apple, and that threaten, unless overcome, the ultimate destruction of that most valuable of fruits.

Rochester, N. Y.

The Clematis.

BY AL FRESCO.

EDITOR HORTICULTURIST:—I seldom clothe my thoughts in the drapery of ink; because I entertain the opinion that it is wrong to occupy valuable space in your columns with descriptions of, and cultural directions regarding, common and familiar things. But I cannot refrain from joining you in advocating the claims of the clematis. I esteem several of the varieties, as the most ornamental hardy plants in cultivation; and trust that they will become popularized. Our nurserymen are much to blame that they do not propagate these plants and bring them within the reach of all. Cultivators of flowering plants annually purchase a number of petunias, verbenas, and other bedding plants, to be destroyed by the next winter, and neglect hardy and beautiful plants like the clematis; forgetting that "a thing of beauty is a joy forever."

The first season that Clematis *Jackmani* and C. *Rubro-violacea* were offered for sale, I imported them, and have cultivated them since—hence have reason to believe that I can speak from experience.

As the varieties of the clematis I shall recommend to your readers are climbing plants, I deem it necessary to refer to my support for these floral gems. I have not seen my favorite trellis adopted by others; and as I find it to answer my purposes, I shall give a brief description of it. In my opinion, it is more simple, appropriate, and better adapted to the requirements of many climbing plants, than the clumsy and inappropriate trellises made by carpenters. Inhabitants of cities may not find the principal constituent of the trellis around the corner; but it can be obtained in most rural districts.

To construct my trellis, I obtained a chestnut post three feet six inches long, and six inches square. One end of the post I beveled off on three sides for a distance of six inches. The foundation piece being provided, I accompanied my man Friday to a hedge-row, and selected a well branched cedar bush seven feet high. This was cut and taken home. The top and side branches were shortened to the extent of six

inches, and the small interior spray was removed; after which the bark was carefully removed from every branch—an easy thing in April or May. One side of the butt end of the cedar was removed, so as to make a flat surface of six inches in length. The flattened surface of the cedar received a heavy coat of white lead, to prevent decay; and with three tenpenny nails it was securely fastened to the chestnut post. The cedar was allowed to dry for a couple of weeks, when it received a coat of lead-colored paint, followed by a coat of dark green deadened by a little umber. As a support for any medium growing climber, nothing, in my opinion, can equal this trellis for simplicity, adaptability and durability, if favored with an occasional coat of paint. When the climber is clothed with foliage the support is scarcely visible, and during the winter months it does not present the heavy appearance which characterizes trellises generally adopted.

To exhibit my floral pets to the greatest advantage, I selected a conspicuous position on my lawn, and marked out a circle four feet in diameter. The earth was removed to a depth of three feet, and the chestnut post was placed in the center. As the subsoil was a tenacious clay, to ensure perfect drainage, I placed in the bottom six inches of rubble and brick rubbish, and filled to within six inches of the surface with chopped sod and decayed manure, and finished by a covering of loamy soil.

Around one trellis, I planted Clematis *Jackmani*; C. *rubro-violacea*; C. Standishii; C. Sophie, and C. *azurea grandiflora*. Around another, C. *Jackmani*, C. *Flammula*, C. *Lanuginosa* and C. *Veitchii*. The first summer I was rewarded with dozens of flowers, but the next and succeeding seasons, my favorites presented a gorgeous display of exquisitely tinted flowers, from satiny white to the richest purple. The different varieties bloom at different periods, and thus a succession of flowers is kept up for a lengthened period. I make it a rule to cultivate the most ornamental plants, and nothing in my garden gave me as much satisfaction, or attracted so much attention from visitors or passers-by, as my cedar bushes, decorated with hundreds of the exquisitely tinted flowers of the different varieties of the Clematis.

With the exception of *Lanuginosa* and *Flammula*, I have found all the varieties referred to, perfectly hardy. Lanuginosa was killed to the ground, but made a luxuriant growth from the root, and in August favored me with a number of its gorgeous flowers varying from four to five inches in diameter. During the last Summer, I commenced experimenting with the Clematis as a bedding plant, and, thus far, have been pleased with the result. In the front of my library window I have a conspicuous bed, in the center of which is a bush of Magnolia Soulangeana, and, around it, I have planted a number of varieties of the Clematis. They have been carefully pegged down, and, thus far, answer all my expectations.

To those who wish to cultivate one of the most ornamental tribe of plants, I say, plant the Clematis—particularly *Jackmani*, *rubro-violacea*, *Standishii*, and azurea-grandiflora. If a suitable trellis is not at hand, plant them against a fence, the side of a house, or in front of a verandah. If stones and stumps are obtainable, make a pyramid of them on the lawn or grass plot, and plant several varieties around the margin. By the middle of the second summer, the stumps and stones will be hidden by foliage and flowers.

The Clematis has no tendrils to enable it to cling to a trellis or other support, but

an All-wise Providence has furnished it with the means of clinging to surrounding objects. The stem of the leaf coils itself around any small object, and I have found light copper wire admirably adapted to its wants. To aid the clematis in its earlier efforts to climb, I place pegs in the ground near each plant, and from the pegs lead copper wire to the branches of the cedar brush.

The planters of the Clematis must protect his pets from the ignorant and half-fledged jobbing gardeners, who infest every locality. "Let me alone severely" should be the motto. They require no pruning. The rule should be, train, and furnish support when necessary, but never use the knife unless to cut off dead wood and seed as soon as formed. The branches of the Clematis are easily broken, and should be handled with care.

The Clematis will grow in any good garden soil, but more luxuriantly for generous treatment. My rule is, to do my floral favorites justice, and I receive a corresponding reward. With regard to the propagation of the Clematis, I can only say, that those who attempt to propagate them, must have patience. Cuttings of the young wood taken off in Spring, and placed in a shady situation, will probably root in three or four months. They can be propagated by layers, if the young wood in the beginning of June is covered by three inches of soil. Your lady readers would find it interesting (if they have patience enough) to raise the Clematis from seed. By sowing the seed of hybrids *Jackmanii* and *rubro-violacea*, they might raise some beautiful varieties. I referred to patience; and I will illustrate my position. On the tenth of April, 1871, I sowed a box full of Clematis seed, and kept the box in a shady portion of my vinery during the Summer. Upon the appearance of frost, I protected the box with a cold frame placed in the vinery. To-day, January 8th, '72, I examined the seed, and find that nearly every one has made a root of about two inches in length. About April, I expect my box to present me with hundreds of young plants, which I shall transplant to the open border, and wait patiently for the results of my experiment. As soon as ripe, the seed can be sown in a pot, or box, and kept in a shady place until frost, and then removed to a cellar—watering, when necessary, and about April or May of the next season, the seedling will appear, and can be transplanted.

Keep the Clematis before your readers, as most of the varieties are more than worthy of extended cultivation. But, I had better stop, or your readers will conclude that an acute attack of Clematis on the brain has affected me.

A Floral Avenue.

OUR frontispiece this month represents a sketch of a floral Avenue in Regent's Park, London, the chief walk or promenade from the gardens of the Zoölogical Society.

The scene as laid in the Engraving, is one of great beauty. On all sides it is hemmed in with dense masses of verdure, while directly in front is a vase of flowers; then beyond, a hedge and copse of densely planted trees, just low enough to permit a glance over them at the towers of a distant church. Such an Avenue as this, the most fashionable resort of visitors, is valuable for its opportunities to educate the

public taste and knowledge of our most attractive trees and shrubs. The style of arrangement of this walk is plain and distinct. All attempts at the gardenesque style of ornamentation (i. e., circular) is necessarily avoided, and we have severe straight lines of trees and flowering shrubs, and back of these, hedges, and then belts of trees; while the strip of green grass in front by the fence, gives an openness and clearness to the scene.

In this illustration, use has been made mostly of English favorite trees, which it would hardly be expected of us Americans to copy, as we have trees of our own far more attractive.

The chief trees in the foreground are the Poplars (P. fastigiata), which, when young, with their succulent vigorous branches and large green leaves, are very good for such a decorative purpose, but they soon outgrow the proportion that would harmonize in such a situation, and while gaining in height, lose in breadth and symmetry. We would use here in this country the Maples, or Elms, or even the Horse Chesnut, which in time of bloom, is a vast bouquet of itself.

Just at the back end of the strip of grass, is planted a continuous row of some prettily blooming shrub, of low growth, say not over two to three feet: the Deutzias, for instance. Then, up the turf embankment is another row of blooming shrubs, say the Weigela or Forsythia; and immediately at the rear of this, is a tall hedge of Arbor Vitæ, or Spruce, either Hemlock or Norway.

The trees used so freely in the background of this scene, are English variegated Oaks, Hollies, Robinias, and here and there are specimens of the Thorns, Cypress, Cedar and Yew. Such a style of rural decoration as this is pleasing, yet very inexpensive. One charm is, that it compasses a picturesque scene into a comparatively small space. The eye is not obliged to wander over a vast park-like space, to distinguish and admire a row of shrubs or an evergreen hedge, but if they are close at hand, with nothing to destroy the effect, they become objects of a thousandfold greater attraction than ever. Narrow strips of land cannot be embellished in a better style than this, and although regular and symmetrized, yet there is nothing to offend the eye with a precise or unnecessary formality.

Testimony of Michaux to the "Silver Maple."

IN no part of the United States is it more multiplied than in the Western country, and nowhere is its vegetation more luxuriant than on the banks of the Ohio. There, sometimes alone and sometimes mingled with the willow, which is found along these waters, it contributes singularly, by its magnificent foliage, to the embellishment of the scene. The brilliant white of the leaves beneath, forms a striking contrast with the bright green above; and the alternate reflection of the two surfaces in the water, heightening the beauty of this wonderful moving mirror, aids in forming an enchanting p cture, which, during my long excursions in a canoe in these regions of solitude and science, I contemplated with unwearied admiration.

Editorial Note.—There is a popular impression that in consequence of its rapid growth it is not a long lived tree, nor its wood of much value. Will any of our active readers give information about these points?

The Vicar of Winkfield Pear.

BY PARKER EARLE.

I AM just finding out how it may be possible for certain Eastern gentlemen of critical tastes, to praise the Vicar somewhat highly, for quality. A portion of my crop of that variety has, the past season, been really excellent. And it is the first time I have ever tasted specimens, about which I could use a better adjective than "tolerable." Among all my Western pear friends, the Vicar has been uniformly mentioned with scorn. And the coarse, sour, green persimmon-flavored things—how they have deserved it! And I, with my large block of Vicars, planted because authority I reverenced had highly endorsed them, haven't I been laughed at?

But, the past season, I have been challenging the wonder of my friends, by giving them tastes of this much-berated pear, about which they say: "Why, this is very much like a Howell;" and "this is absolutely better than a Bartlett," and so on; and these praises have been worthy. I cannot explain it, without this will do it. My trees, having grown too fast when young, and been severely injured by the winter, were seeded to clover to check growth, and to help them recover the health of their foliage; both of which points were gained. Most of these trees for two years past have made but slight growth—perhaps an average of three inches—have filled up with fruit buds, and in all respects seem like old trees. The fruit on them has been only of medium size, but it has much of it been very good. But a portion of this block is on ground that had been heavily manured before planting, and here the trees have continued to grow freely, notwithstanding their winter freezing and the effect of the clover, and the fruit borne on them was very large and handsome, but coarse, astringent, and uneatable—regular Western Vicars! These differing conditions of growth in the trees, seem to offer the only explanation of the contrast in flavors. The good pears were borne on virtually old trees; the others, on those young and fast growing. Is there something in this? And may I hope to find this sometimes a good table pear in some succeeding years, and that sober age will develop mild and sweet virtues in the Vicar, of which its succulent and robust youth gives no promise?

South Pass, Ill., Jan., 1872.

The Planting of Door Yards and Small Grounds with Ornamental Trees, Shrubs and Evergreens.

An Address before the Rural Club of New York, December 7, 1871. By Josiah Hoopes, President Pennsylvania Fruit Growers' Association.

(CONTINUED FROM FEBRUARY NUMBER.)

THERE are four genera belonging to the great natural order Coniferæ, that are furnished with deciduous leaves and tall spiral tops, all well adapted for the center or background of groups—the Larch family, of which the European species is preferable; the *Salisburia* or Japan Gingko, with curious yet pretty fan-shaped foliage; the *Deciduous Cypress*, with light feathery leaves; and the *Glyptostrobus*, or Weeping Cypress, having unusually graceful foliage and pendant branchlets.

Weeping Trees.

Every place should have at least one drooping tree, as much for its intrinsic beauty, as for the effect it produces when grown near other forms. For this purpose the

Weeping Beech possesses an individuality peculiarly its own. Not so pretentious perhaps as the preceding, but with a graceful drooping of the more slender branches, the Weeping Linden stands next in the list. Where they will flourish, the Weeping Elms and Weeping Mountain Ash are very handsome; and the old-fashioned Weeping Willow, especially when in the vicinity of water, is often a valuable assistant for creating a beautiful picture. For small-sized weepers, I would suggest the following, all of which are useful, and in fact indispensable to the landscape-gardener: The Thorn, Grandidentata Poplar, Kilmarnock Willow, Dwarf Cherry, Sophora, and Beech. The drooping varieties of the common Ash are stiff and formal in outline, yet often attractive from their very oddity.

Autumn Color of Trees.

A feature often overlooked in American gardens is the massing of trees that are beautiful in the autumn. Most places can be improved by a little group of these brightly tinted species, and for this purpose I would name for the background the Scarlet Oak (*Quercus coccinea*), dazzling in its scarlet dress; the Sour Gum (*Nyssa multiflora*), with the deepest shade of crimson; the Red Maple (*Acer rubrum*), gay with yellow, red, and orange, and a Sassafras (*S. Officinale*), with golden yellow leaves. To the front I would place a White-flowering Dogwood (*Cornus Florida*), with its vivid shade of red; one or two common Sumachs (*Rhus glabra*), as bright as the petals of a crimson Pæony, with a few vines of the Green Briar (*Smilax rotundifolia*), of golden hue, and *Ampelopsis quinquefolia*, dyed with crimson, clambering over the whole. It is needless to add that the effect of such a blending of colors cannot be overrated. In leaving the deciduous trees, I would merely call your attention to the neglected family of oaks, although beyond the limits of such places as we are discussing to-night. For very large lawns no genus in the flora of the world can exceed their majesty of form, their picturesqueness of outline, nor their value for every purpose appertaining to the landscape art.

Evergreens.

We now arrive at the Evergreens, but as my time has nearly expired, I will hurriedly particularize a few of the most valuable for the majority of our country places, all of which will undoubtedly succeed in this vicinity. In the Spruce family, as not only the first in the genus, but among all cone-bearing trees, the Norway Spruce is fully entitled to consideration before any other. You all know it well, and knowing it, have nothing to say against it. It is a tree at once appropriate in all situations and for every purpose; hardy every where, and unexceptionably beautiful.

More formal in outline, but remarkably pleasing in color, the White Spruce stands next; and the Hemlock, with its charming drooping branchlets, curving in even circles to the ground, must never be neglected. In particular localities and exposures, *Abies Smithiana*, *A Douglasii*, and *A. Menziesii* are among our handsome kinds. In Silver Firs, the *A. Nordmanniana* is, without doubt, the best hardy species known to us at present—always beautiful and healthy, we cannot well dispense with its presence; and almost as valuable, the *A. Pichta* ranks next. With varying success, although generally firm, I would name the rare *A. amabilis*, *A. grandis*, *A. nobilis*, and *A. Cephalonica*, while the Common Balsam Fir and European Silver Fir, are

unexceptionable in many grounds. The Pines must be used sparingly, as they are rather coarse for close proximity to the dwelling.

Among well-tested kinds, the Austrian, Cembran, White Lambert's and Scotch are all hardy, and deservedly admired, and where the *P. excelsa* is free from blight, I would add it to the list. A few of the newer species, such as *P. Ponderosa*, and *P. Massoniana* are promising to be valuable, but they require a more extended trial. The Cedar of Lebanon must not be forgotten, not alone for the many reminiscences connected with it by the sacred writers, but for its individual beauty on the lawn. The *Libocedrus decurrens*, *Cupressus Lawsoniana*, and *C. Nutkaensis*, notwithstanding they are almost unknown to cultivators, are surpassing our most sanguine expectations, where they have been tested.

Our American Arbor Vitæ, as well as the Siberian variety, are so well known and appreciated that it seems unnecessary to urge their claim to public notice. Low-growing conifers are of such vast importance to the landscape gardener in creating dense evergreen masses, that of latter years our arboriculturists have been eagerly gathering from every available source all which have proven distinct. I may not enumerate even those deemed worthy of notice, for the list would be too long, but I cannot resist the temptation to mention a few that are of sterling merit.

In the new genus *Retinispora*, a group formed of *obtusa* in the center, with *filicoides filifera*, *nana*, *leptoclada*, *squarrosa*, *plumosa*, and *plumosa aurea* placed around it, would be unsurpassed. They have proven hardy and very distinct. Among dwarf *Thujas*, I would suggest *pyramidalis* in the center, and massed with it, *compacta*, *conica densa*, *ericoides*, *globosa*, *Hoveyi*, *minima*, *nana* and *pumila*. *Biota* furnishes a striking group in *aurea*, *elegantissima*, *falcata*, *flagelliformis*, *pygmæa*, and *variegata*. A properly selected list of *Junipers* is always fine. The following will be found reliable:

How to Arrange Trees for Groups.

Place the Irish in the center and in close proximity, *Chinensis*, *Cracovica*, *Swedish oblonga*, *oxycedrus*, *rigida*, and *Sabina;* while on the extreme outer edge, the very low forms of *alpina*, *hemisphærica*, *prostrata* and *squamata*, should complete the group. In this latitude the Yews are exceedingly beautiful. Around a tall specimen of the Irish, set the *adpressa*, *Canadensis*, *erecta*, *nana*, *Dovastoni*, *variegata aurea* and *cuspidata*. The Norway Spruce supplies us with a few very pretty dwarfs, the most available being *Clanbrasiliana*, *Gr. goryana*, and *pygmæa*. When these are grouped with *Pinus Mugho* and *Cephalotaxus*, the whole presents a handsome feature. With such an ample list as the foregoing, why need we further long for the Laurels of Old England. Our own are so hardy, so beautiful, and so easily grown, that we should not ask for more.

Before closing my remarks, permit me to say, that as a nation we are but yet in our horticultural infancy, although the present, teeming with such good results, offers a flattering prospect for the future. The introduction of rural cemeteries first opened the way to a more enlightened horticultural knowledge, and the modern parks have given it an impetus hitherto unknown. Incredible as it may appear to the gardeners of the Old World, we have shown them examples of landscape art which they, with all their years of experience, are forced to confess are almost unsurpassed.

With a justifiable pride, those who have devoted their leisure hours to inculcating the study of horticulture in the minds of others, now find that their labors are being appreciated; and that the seeds of good taste, which were sown in a kindly soil, have germinated beneath the warming influences of a generous and enlightened people, into a vigorous young plant, giving us an undeniable assurance that the mature tree will yield abundant good results. One of the most important auxiliaries in the work before us, are just such associations as you have inaugurated here, and no one can reasonably doubt they will prove to be blessings to the whole community at large, for I feel that you will be successful, too; for the social character of your meetings, with a desire to impart unto others the knowledge you have gained, will certainly prove as "bread cast upon the waters." I have no advice to give, save that of perseverance in future years; so that all our homes may be homes of taste, giving at all times preference to works of Nature over works of Art; for, in addition to beautifying our surroundings, such exert a happy influence in teaching us, in the words of old John Bartram, the pioneer botanist, "to look from Nature up to Nature's God."

Remarks of Frederick Law Olmstead.

I have for years regarded the speaker of the evening, Mr. Hoopes, as the man in this country who knows most of the habits and capabilities of ornamental trees, and especially such as are not deciduous. After listening to the very admirable paper which he has just read, I am the better prepared to respect his authority as unquestioned, especially in evergreens. Three of the ornamental evergreens to which he has alluded are my special admiration, the *abies nobilis*, *grandis*, and *amabilis*. When the object sought is picturesqueness, and especially on surfaces that are somewhat extensive and broken, so that striking sky outlines can be obtained, I know of no trees that can be so confidently recommended.

There is a pine on the Sierras that I have more than once endeavored to domesticate on our Eastern soils—the *Lambertiana*. I think I did not see it below an elevation of 4,000 feet, and often at 6,000. If I could get one of those giants of the mountains well rooted and prosperous in our Central Park it would in the end form a splendid picture. Growing to a height of 200 feet, and sometimes 250 feet, with a diameter at the base of from four to eight feet, it flings its stalwart and deep green branches horizontally against the sky. Somber and gigantic on its native slopes, if it could be made to consort with our smaller and tamer flora, what strength and dignity would it add to our landscapes! Another of those Western pines that would be a great addition to our plantations is the *Abies Williamsoni*. In size it does not loom up like some that have been named, but it is the most beautiful medium-sized evergreen that I know, and not the least attractive of the features it presents are the delicately-formed and rich purple cones. Some pines that are handsome when young are to be avoided as they grow dull and brassy in hue, as age comes upon them. Such, for instance, is the *Pinus Sabiniana*. I am very glad, gentlemen, that you have organized a Rural Club, where in a social and informal way, not without festivity, these charming topics of natural beauty and the decorations of our homes and our parks can be so intelligently discussed, and I wish you all prosperity and growth.

Remarks of Dr. Franklin Taylor.

I am afraid, Mr. Chairman, you have made a mistake in calling me up. I find myself in a group of scholars and botanists, and their talk of trees is sometimes quite beyond me. I hear of pines or firs, some of which are grand, others noble, and still another sort that are amiable. Why, Mr. Chairman, all those great towering, self-sustained monarchs of the wilderness are grand to me; the word noble seems to fit every big tree of the forest or the grove. Amiable! yes, all the growths of thickets, and dell, and hillside are lovely; and they make the soul that loves them itself beautiful and strong. Sometimes when I visit this great roaring metropolis I naturally wonder what you, who stay here all the time, should know of firs and pines, and rhododendrons—what you should know of farming. But when I go from the crowded mart and the all-night glare of newspaper offices, and see your bit of greenery up there toward Harlem, your little patch of 800 acres redeemed from chaos and bare rocks, and dirty goats and rickety cabins, and made the grand beauty-spot of the Continent, I am convinced that some of you know something about trees and grass, and flowers. We of the staid Quaker City have one advantage of you in fostering a love of these beautiful rural things. Our blood is more agricultural. Generations ago our sober fathers, whose garb was not gay and whose speech was plain, instilled in our minds a reverence for the life of the farmer as the purest, the most just and beneficent of all lives. In colonial days we had a Humphrey Marshall, one of the warmest lovers of nature that ever pruned an orchard or planted a grove. He made a collection that was quite wonderful for those days of living flora, and his garden and arboretum stood there on the Brandywine Hills for a generation, every tree a mute but constant plea for this noble art of rural decoration of which you are talking to-night.

Something has been said of the associations that twine around uncommon and beautiful plants. Some have power to transport us in fancy to great distances. If Mr. Olmstead succeeds in getting some of those mighty growths of the snowy mountains to prosper in your park, how quaint and charming will it seem to the traveler from the other verge of the Continent, to see his giants nodding over the Atlantic wave line. It is a little remarkable that the river which parts Pennsylvania from your neighbor State of Jersey, also divides the flora that is new and alive from a wonderful fossilized flora that we have filed away in the somber crypts of our coal mines. When I see one of those calamities I am transported by its curious feathery leaves now stamped in jet, not to California, but to strange geologic epochs, and I ask for the imagination of a Hugh Miller to paint for me the sluggish oceans, that soaked a continent of mud, and the tropical air, and all the weird conditions under which such forests were produced, and the wilder cataclases by which they were submerged and held in a dead-lock of stone, to be the light and the strength of the coming generations of men. But I am in danger of talking geology instead of dendrology, which is the order of the evening; and I will close by saying that some four years from now we hope to welcome you and all good New-Yorkers to a celebration in a Park near our city, to which we hope the progressive men of our time will come by millions to see illustrations of what a hundred years of Republican independence have wrought upon this Continent.

Among the Flowers; or, Gardening for Ladies.

BY ANNA G. HALE.

VII.

Ornamental Grasses.

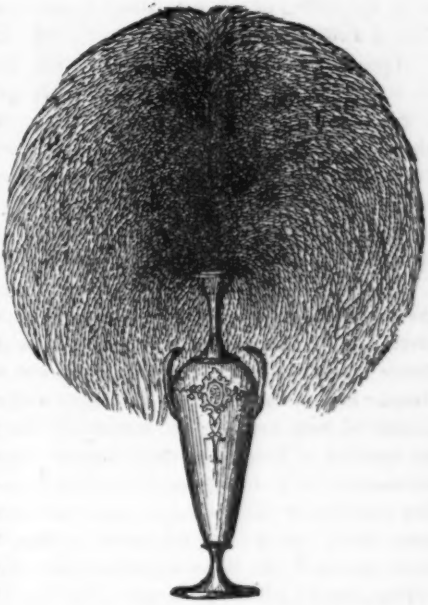
THE flowers of some species of grass are exceedingly beautiful. Lily and rose, violet and daisy are not more lovely than they, after their kind, when, arrayed in purple and gold, at the dawn of their maturity they glitter in the sunlight as if bestud with the wealth of Golconda. It is true, we need almost microscopic vision to distinguish calyx and corolla, stamen and anther of the tiny blossoms, that are so fragile as to wither nearly to nothingness when severed from the parent stem at the height of their beauty. But, taken collectively, as they grow, in spikelets, thyrses, or panicles of florescence, their general effect is charming—from its suggestions of unassuming and undeveloped loveliness. And if the stalks are cut with a careful hand at that auspicious moment just before the glumes unclose, and tenderly hidden from rough breezes and too fervid sunbeams, they will unfold that beauty, and we may possess it in all its attitudes and motions of grace, drooping or swaying, or waving, for an indefinite period.

The seed-vessels of many species, in their curious conformations and convolutions are also objects of interest to observant eyes; while the seeds and seed appendages of yet others—grains as of molten gold—links of silver—scimetars of burnished steel; and velvet tiaras, scintillous as with diamond dust—shining sheathes, as of imperial satin-downy plumes of prismatic splendor—furnish them with ravishing delight.

These are only the humble grasses of the meadow and the wayside, which we too often pass unnoticed—"born to blush unseen," even at our very door. And there are others yet more beautiful, which florists have considered worthy of high cultivation. They have styled them "ornamental grasses," and given them a place among garden flowers. These are mostly of foreign extraction, are obtainable at flower-stores in a dried state, and dyed, also, generally; for European horticulturists, to supply the demand for them from dealers in this country, as well as to accommodate their own florists, raise them in large quantities, and dye them various colors—they easily take any common dye.

The most elegant arrangements of ornamental grasses are seen in France and England. As decorations for parlors and reception-rooms, to grace the dining-table at festivals, or in the celebration of rural *fetes* they are much used. The more delicate and feathery arts serve as ladies' head-dresses. Of these the lightest is *Stipa*—the feather-grass—whose seed-plumes resemble the feathers of the bird-of-paradise; they have a fine effect drooping over dark hair. Our engraving represents a vase filled with these exquisite plumes. Their natural color is a delicate buff-yellow,

handsome enough as it is naturally; but for variety they are dyed and can be procured in all shades.



Stipa-pennata, and a newer variety, *S. elegantissima*, are very desirable; their seeds can be purchased where flower-seeds are bought. The feather-grass requires care (but its beauty is sufficient recompense)—care in planting, in growing, in gathering, in keeping. It is considered a biennial; but it blooms the first year if started early in the house. Those who would have this grass in perfection will provide good garden soil in the autumn, and keep it unimproved, within doors, till January. Then, in pots resting in saucers that hold water, the saucers sitting where the heat shall be regular and of a somewhat high temperature—seventy or seventy-five—(near a furnace or stove is a good situation), sow the seeds; or, rather, lay them on the soil (which should be as moist as newly-turned earth) and sift over them more soil to the depth of the length of the seed. The soil in the pots must not be watered—the saucers must be kept filled with water. Three or four weeks may elapse before green shoots appear; sometimes they are seen sooner. When they are an inch high they may be placed in the sunshine, but at the first signs of wilting must be removed to the shade. In May the young plants may be set out-of doors, in a bed, three feet apart, where they can have plenty of sun. They will need frequent watering—at night. When the seed is setting it must be watched, lest it take flight—for even a gentle breeze will disperse it when matured. Just as soon as the plumes can be easily plucked, take them by their stems and tie a dozen or so in a bunch, being careful not to bend or break them; and set them in a vase or some other vessel that will allow them to droop gracefully without crowding. After a few days take a number of these bunches and by means of a slender cord tie them around a stick to make a bouquet of the above form. Begin with three or four bunches at the top, then arrange a row half an inch below those, and so on, till you have nearly covered the stick and have thus made an elegantly formed bouquet.

If this grass is to be sent any distance, or is to be kept from view, the bunches can be piled one above the other, or even the whole bouquet can be laid straight, and kept without injury in a linen case of this sort. This method is

especially necessary when other grasses are casually placed with it, as by contact with them the plumes are often torn. Feather-grass shows its beauty best by itself or as the outline of other grasses—its extreme delicacy forbidding intimate companions of a rougher nature.

Agrostis nebulosa—hair-grass—is a very delicate species, considered by some the most elegant of ornamental grasses. It grows well in the garden. *Gynerium argenteum*—pampas-grass—with its large, full, feathery spike, makes an elegant show. It does not bloom till its second year, and must be kept covered with dead leaves through the winter. *Erianthus Ravennæ*, a new ornamental grass, is said to be as beautiful as pampas-grass, which it resembles. *Erianthus alopecuroides*, a native grass, growing in damp pine woods in New Jersey and in Illinois, is a fine species. This is commonly called wooly-beard-grass.

Avena sterilis—the animated oat—is a desirable grass for bouquets; so also is *Briza maxima*—the English shaking-grass. Both are easily grown in the garden. *Briza media*—quaking-grass—is our native species; has a more delicately formed flower than B. maxima. Grows in damp pastures, in Massachusetts and Pennsylvania. Should be gathered in July. *Glyceria canadensis*—rattlesnake-grass—is another elegant native grass, resembling Briza, except that its spikelets of flowers are drooping. It is found abundantly in boggy meadows and by the side of ditches. *G. elongata*—sometimes called *Poa elongata*—a desirable species for bouquets, but less graceful in habit than G. canadensis, grows in wet woods. *Agrostis scabra*—hairgrass—is another elegant native species. Common in dry, rocky places. Especially desirable with the foregoing species.

Poa annua—the low spear-grass, *Poa laxa*—a delicate purple species, *P. alrodes*—green, *P. serotina*—purple, and *P. pratensis*—meadow grass, are all common, roadside or field grasses, which, if gathered early and dried separately, are fine additions to any bouquet. Then we have *Bromus secalinus*—chess-grass, *Sporobolus cryptandrus*—dropseed-grass, both beautiful, found in sandy soil; Bromus most frequently on waste lands. The sedges, too, with their brown or chestnut-colored velvet flowers, are a handsome contrast to the grasses proper. *Scirpus planifolius*—the bulrush of moist woods, *Eriophorum gracile*—the chestnut-colored cotton-grass, *E. polystachyon*—white cotton-grass, and many others worthy of a place in any collection.

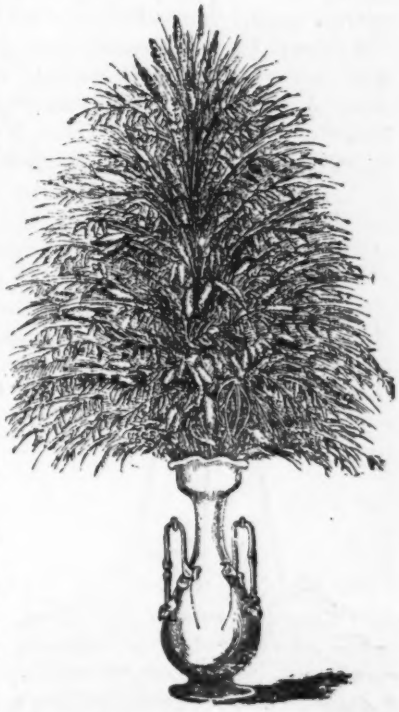
The cultivated grains—wheat, rye, oats, and barley—are all handsome, and should be obtained, if possible, for increasing the varieties of form. Oats are especially graceful, grouping with the lighter grasses admirably.

Of the cultivated ornamental grasses, *Lagurus ovatus*, hare's tail grass, should have had mention before. It is quite pretty, with showy heads—though the plant is of low growth, one foot only in height—and flourishes without trouble in the garden; but should be planted early. In the annexed cut, representing a grass bouquet, it has conspicuous place.

There are many other species of ornamental grass, but these are the most desirable. In their several varieties of form and habit they comprise an excellent assortment. Capable of adding lightness and grace, when freshly gathered, to any bouquet of garden flowers—the cultivated grasses when in a state of growth contributing

not a little to the appearance of the flowering plants in their vicinity—and when dry easily wrought into a great number of beautiful combinations.

Grass-flowers should be plucked—the longer the stems the better—before their spikelets are fully spread. Care must be taken in gathering, and afterward, that the finer blossoms do not get entangled with the coarser. Dry them like everlastings.



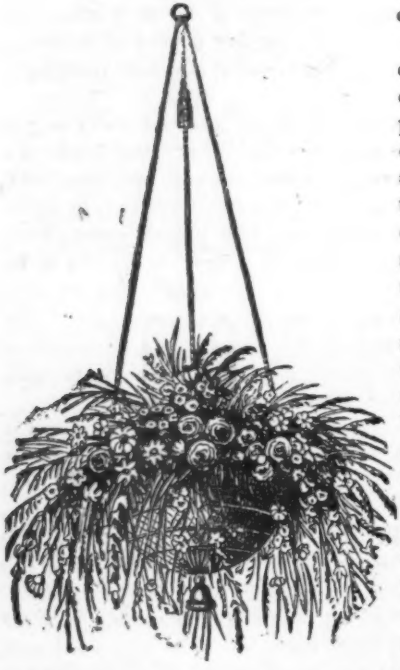
The seeds of the cultivated grasses—a large number of species and varieties—are for sale at the flower stores. The wild grasses here mentioned, and many others which the limits of this article forbid noticing, can be found almost anywhere.

No matter if unacquainted with its botanical name, wherever a tuft of grass lifts a stalk of inflorescence accept its offering of beauty—June, July and August are grass months.

If grasses are green in color when gathered, or purple, or red, as some are, they soon fade to a pale buff. But even then they are agreeable to many eyes; especially if the rich browns of the sedges add their contrasts, and the orange and scarlet seed vessels of *Celastrus scandens*—the climbing bitter sweet, the coral-like berries of *Ilex verticillata*—the black alder, the dark blue berries of *Ampelopsis quinquefolia*—the woodbine or Virginian creeper, or even the shining black ink-berries and the red hips of the wild roses are mingled tastefully with them,—while bright autumn leaves—sumach, maple, oak, elm, beech, lending their presence, make up a gorgeous assemblage.

Yet some persons prefer to dye them, and they are often seen of all the colors of the rainbow. They will absorb any liquid dye, the dye being heated to scalding. If large quantities of any one shade are desired, the family dyes now obtainable at drug stores are most suitable. In using these for grasses, proceed as if dying cotton goods, following the directions for so doing, which accompany the dyes; except that in dying grasses the stalks should be suspended head downward within a deep jar or pitcher and the dye poured over them. Tied to cords which are stretched across the brim, they will be in good position to receive the dye without injury to their form. When the right shade has been attained—easily seen, if the vessel be of glass—the cords, still bearing the newly dyed grasses, must be hung across a dark closed room, till the blossoms are all dry; then they are ready to be arranged in vases, or bouquets, or to be used in decorating the hair.

When a few grasses only are to be dyed, sufficient coloring may frequently be made of some familiar substance to stain them handsomely. Thus, good blues are made by the use of the azurine or liquid blue,—(all dyes for grasses are needed hot)—which is green by the addition of a few drops of the muriate of iron-tincture; the iron alone giving to the scalding water different shades of yellow, which are permanent; and soda added to this making it orange, or brown, according to the quantity used. A very little—a few drachms—of cochineal, tied in a bit of muslin, and steeped in water a few minutes, gives different shades of rose and red according to the amount of water used, which are quickly changed to purple, if desired, by dipping in the blue. Thus one may have a gaily-colored assortment with little trouble.



Dried grasses, especially those of waving or drooping habit, can be very handsomely disposed in baskets—in hanging baskets, particularly, as our illustration makes evident. Here, with dried eternal flowers and crystallized grasses, we have a decoration—dazzlingly beautiful—either in sun or gas-light—for an arched doorway or an alcoved window. Crystallization enhances the beauty of dyed grasses as well as that of the natural-hued; but dyed grasses should be used alone for decorations, or with only a few of the undyed. It is poor taste to mix eternal flowers, bright winter berries, or autumn leaves with dyed grasses, as is sometimes done. Baskets of light wickerwork, lined with silver paper, and filled with dry sand are suitable for crystallized grasses. A hanging basket covered with a net-work of white glass beads or bugles, and suspended by slender chains of the same is very elegant for this purpose. Or the basket itself may be crystallized as well as the grasses.

The lighter and feathery species of grass are the prettiest crystallized. When the grass is to be used for ornamenting the hair, or for arranging with eternal flowers, the spikelets should be crystallized singly. A bouquet of grasses entirely is best made up before crystallization, as the crystals are liable to be shaken off if the grass is handled much. The crystallizing liquid is a solution of alum. One pound of alum will make sufficient liquid for a large bouquet.

When you wish to crystallize grasses begin the work in the morning, because it will take two days and a night, at least, to complete it. Use a perfectly clean porcelain-lined kettle or pan, and put in this the alum, that has been pounded fine as dust. Add to it a quart of cold water—rain or spring water is best. Set it on the

back of the stove or range, and keep it there till it is scalding hot, stirring it till the alum is dissolved. When it is hot pour it through a clean muslin stretched over a bowl, in order to strain out all impurities; the beauty of the crystals depends upon their clearness, hence all this care to have the solution perfectly clean. Let it cool till you can hold your finger in it comfortably. Then, get a deep jar or pitcher—glass is best; you can then see that the grasses are not bent nor crowded—which would mar their beauty. Within this suspend the bouquet, by tying it to a stick laid across the jar's brim, and from a small-nosed pitcher pour the solution over it, slowly, till the liquid rises to the stems of the bouquet. Let it remain thus, submerged, till the next morning, in a cool room. Take it out carefully then, and hang it half an hour—head-downward in an empty jar (by means of the stick across the top of the jar) to drip. It is then ready to place in the vase which it is to occupy. Set it in the sun and air—*not in the wind*—till night, and at that time remove the vase to its niche in the parlor.

When grasses are crystallized singly, suspend the larger panacled stalks as you would a bouquet, and manage them in the same manner. The lighter kinds, and the feathery sorts, may be placed head downward within the edge of a deep bowl, spreading as thinly as possible, and a few can be suspended in the center, by means of a short string and the stick across. When they have been in the solution (it was poured over them, of course, as for a bouquet) a day and a night, stretch the string in front of a window, and lay the others on a dish to dry. If, after drying, the crystals are not large enough, heat the solution and go through the process again. The solution may be colored, by adding a few drops of dye, when it is cool enough to pour over the grasses. What remains after crystallizing the grasses may be again heated, half a pound more of alum added, and a crystal basket made.

To make a crystal basket, procure slender canes or whalebones, such as are used in the manufacture of shirred bonnets. Form from these two rings, by tying securely together the ends of a strip fifteen inches long and of one thirty-three inches long. Then tie seven strips, twenty inches long, at equal distances, to the small ring; then, also, at the height of six inches, to the larger ring, at equal distances; and, bending them to form a scallop two inches high tie them again to the rim; and, latticing the strips between the rim and the base tie the other end to the base. Wind all fastenings strongly, and cross four strips within the base-ring to fill the vacancy, and the basket is formed. Strips of coarse cotton cloth, two-thirds of an inch wide, must then be ravelled on both their edges till only threads enough remain in the center to prevent falling apart at handling. Wind these strips over the canes that compose the basket-frame, covering all parts carefully, till the whole seems hung with a fringe. Set it in a deep dish, pour the warm—not hot—solution of alum over it; cover the dish, and let it remain thus twenty-four hours. Then take the basket out carefully; place it in an empty dish to dry in an airy, sunny room. Do not move it till the next day. This, too, should be covered again with the solution if not thickly hung with crystals. If properly managed the threads of the fringed cloth will be bristling in every direction and tipped with resplendent jewels. A white silk cord should be attached to hang it by, or handles made of canes covered with the fringed cotton and then crystallized like the basket. It will need a lining of silvered paper, and should

be filled with dry sand to receive the stems of the grasses and eternal flowers; some of them being first made into small bunches for the center of the group.

We see here a *vase* containing a pyramid bouquet of crystallized grasses and eternal flowers. This is made in the same manner as the bouquet of *Stipa*, or feather-grass—mentioned on a previous page of this article—except that the flowers are the center of the small bunches of which it is composed, and the grasses are bound in with the moss that is needed to separate the different colored blossoms from each other. The crystals have a very fine effect among the green moss and bright flowers. But a China vase is less suitable to hold such a bouquet than a rustic one would be. One made to resemble an old forked branch of a tree may be easily fabricated from birch-bark—lichens and grey-beard moss gummed upon it at intervals, and also the red-cup moss. If this last cannot be procured touch the lichens here and there with hot sealing-wax. The grasses and eternal flowers should be arranged in spreading form; the drooping grasses are very beautiful for this. Suspend the branch from the ceiling, in the corner of a room. A vase made in the form of a cornucopia and covered entirely with lichens and mosses and filled with grasses is a very handsome ornament for the mantel or a corner bracket. A very large cornucopia filled with pampas-grass, crystallized, would be a magnificent figure for a niche in a hall or a reception room.

The dried flowers of the garden and the conservatory are often grouped with dried everlastings and some of the smaller grasses, as we find them here in this basket, the crystals of the grasses gleaming like dew-drops among them. A basket of dark colored wicker-work brings out their colors in strong relief; one of this present shape is better fitted than a round one to display them to good advantage upon a center-table or a corner-stand.

A very pretty basket, in imitation of coral, may be made by fabricating a frame of this form from canes and tying upon it with stout thread, in a careless lattice work, the stems of bunch raisins—probably grape stems would answer. Two ounces of white wax should be melted and half its measure when liquid added of olive

oil or lard. Simmer these together, then stir in an ounce of vermilion, bought at the paint-shop; and when the mixture has cooled to the consistence of mucilage drop it with a camel's hair pencil upon and over the stems till all is a brilliant scarlet. Care must be taken not to break the small stems (from which the raisins have been plucked), as these, when tastefully covered with the vermilioned wax, have the appearance of thickly branching coral. This is a beautiful basket for displaying crystallized grasses of natural hue.

Fruit. Climatic Influence.

BY ALPHA.

PERHAPS no branch of Horticulture has received less attention, than has the influence of climate upon fruits. And increased light upon the subject by some, at least, is very much desired. It is an acknowledged fact that the climate has a great influence upon certain kinds of fruits, rendering some varieties worthless in one section, that are really excellent in another; but the exact conditions of that influence, and the result upon different varieties, and different kinds of fruit, has not met with that careful investigation that its importance deserves. As an illustration of the influence of climate upon fruit, we find currants ripening in central New York in the latter part of the Summer, and if allowed to hang on a long time, become what may be termed, a sub-acid. In Ohio they flourish, becoming large and perfect, but very acid, while in Southern Kentucky they will not grow at all, except under very favorable conditions.

The Concord grape is another illustration of the influence of climate, although grown in large quantities in the grape regions of the lakes, yet they do not possess the sweetness they do in Tennessee and Kentucky. In the latter State, I have seen them hang on the vine, until they became sticky with sugar. Examples might be multiplied of the effect of climate upon fruits, but it is chiefly to the effect upon the constitution of the plant, that attention should be directed, for upon success in the growth of the plant, must our future crops of fruit depend.

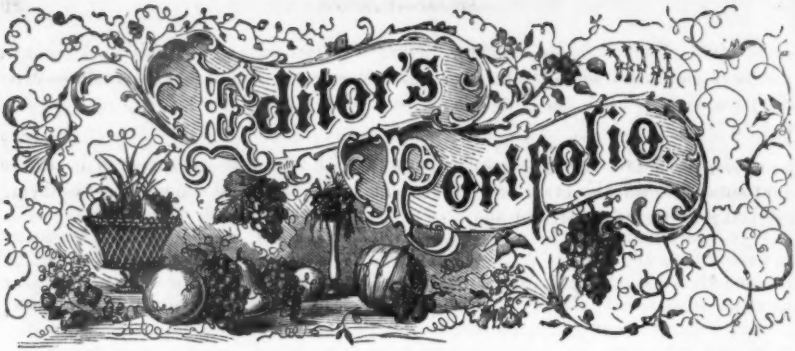
White New Rochelle Blackberry.

BY M. B. BATEHAM.

DR. L. M. AYRES, of Urbana, Ohio, an intelligent horticulturist, in writing to me on small fruits, inquires whether the original New Rochelle Blackberry was not really *white?* He says: "In 1862, I was connected with the Army, and stationed for a time at the United States Hospital on David's Island, near New Rochelle, N. Y. While there, I frequently visited that town, and on one occasion, on the grounds of a Mr. Sollman, saw some very fine white blackberries, which, I was informed, were the original New Rochelle variety. I told the gentleman that the New Rochelle, or Lawton, was everywhere of *black* color; he replied, no—that the genuine New Rochelle was undoubtedly *white;* and he showed me the spot where, as he claimed, the original plant was discovered. Now, is it not possible that the Lawton and the New Rochelle are really distinct—the one black, and the other white?" I think not; but who will tell us more about this white variety?

Painesville, O.

Editorial Note.—The Lawton and New Rochelle are precisely the same, and perfectly black; they are named after Mr. Lawton, who lived at New Rochelle, and was very successful in introducing and selling the plants. There is no white variety by either name.



Editorial Notes.

Management of Fruit Trees.

Pruning.—Young trees should never be pruned in spring after the buds begin to open. Nothing checks their growth more than pruning too late. If the proper heading-back has not been done before growth commenced, do not do it now. Much of the objection to shortening back the shoots of young, newly transplanted trees, is owing to too late a performance of the work. But if done in good time, it is eminently useful.

Grafting.—For this reason, when grafting is done late, no more of the stock should be cut away than is necessary for the insertion of the graft. If the grafts have been kept in good condition, without the starting of the buds, they will do well; but if a young stock in full leaf is cut off to insert the graft, it will meet with a severe check, and the new tree will be feeble. Small trees should not be grafted late, for this reason; but large ones, when most of the head is allowed to remain, willl suffer little or no detriment.—*The Country Gent.*

Summer Pruning of Grape Vines.

The effects of severe summer pruning are often disastrous; the vine receives a sudden check of its sap; the leaves either drop shortly after the operation, if this has been performed during dry weather, or the vines force out a vigorous new growth at every point where it was cut back, which deprives the young fruit bunches of their necessary supply of sap, and cause them to decay or shrivel up. This latter evil is only to be apprehended if the pruning has taken place during moist weather. When the leaves drop, the fruit is suddenly exposed to the sun—is either burned, if far advanced enough in size, or decays and drops off. Often the fruit will remain stationary and uncolored after the natural period of maturity, when it drops, or if it remains it is always devoid of flavor. A knife should never touch a grape vine after it has received its winter's pruning. The necessary removal of superfluous shoots can be done by simply rubbing them off by hand. Allow the canes to remain untouched during their summer growth, notwithstanding what foreign vine dressers may say to the contrary.

If the vines have been neglected until the young shoots become hardened, it is better to let them remain than remove them at that late date; more injury is done to the vine by late removal than by allowing them to grow unrestrained.—*Southern Gardener.*

Sending Grafts by Mail.

Sending grafts by mail is to be done by procuring moss and wrapping it around the grafts, laying them in a damp place for a few hours, so that the moss is only in the slightest degree moist; then wrap with oil paper, so that it may be water tight, and they are ready for sending.

Sowing Flower Seeds.

Flower gardeners should take care not to cover the tiny flower seeds too deep. Many are disappointed, and think the seeds sown not good, because they are covered so deep that there is not vitality enough in them to reach the surface. If they "come up" after so long and exhaustive a struggle, they do not grow well, and are apt to remain sickly, and backward. No seed should be covered more than six or eight times its own diameter. Nature covers seeds but little when she sows them. She leaves it to the rains and their own slight weight to sink them into the soil. The ground should be finely pulverized and kept moist all the while. Frequent showers will do the work. When these are not to be had, recourse should be had to the sprinkler. But do not drench the ground with cold cistern or well water. Warm the water so as to take off the chill thoroughly. Let it be tepid, if not blood warm, and put it in after sunset; when the sun will not dry and bake the earth over the seeds, especially if the soil is clayey. Of course, if the soil is not already sufficiently enriched, fine fertilizers should be used. There is nothing better than the vegetable mould which can be procured in the woods. Well-rotted manure of almost any kind is good. Guano in small quantities is good. If one has not any of these, she can apply the rich soapsuds made in doing the family washing, and any slops of the kind—avoiding, of course, the raw chamber slops, which are too powerful and would do more harm than good, if they did not kill the flowers. Pulverized charcoal spread on the surface, will give a deep rich hue to the flowers, and assist their growth as a fertilizer. Almost every one has a little corner somewhere that flowers can be grown in, and nothing can be more cheerful, except the pleasant face of the cultivator of flowers, who is apt in the operation, to imbibe some of their delicate hues in her cheeks.—*Utica Herald.*

Preventive Against the Apple and Peach Borers.

The first and most important thing is to give clean cultivation around the immediate stems of the trees. Second, wrap the stems from an inch or more below the surface of the soil to one or two feet above, with some material impervious to the newly-hatched larvæ, provided the beetle should lay eggs thereon, which she will not be very likely to do. The material used may be tar paper, or even common brown paper dipped in oil. These envelopes should be put on before the beetles appear, and removed in autumn if they are worth preserving more than one season.

Coating the base of the stems in early spring with a cheap kind of grafting wax, made of resin and tallow, will answer the purpose. One pound of tallow to three of resin, melted together and applied when hot with an old brush, will answer the purpose. If the borers have made an entrance into the tree, the only way we know of getting rid of them is to dig out with a knife or chisel.

The peach tree borer is the larva of quite a different insect from the apple tree borer, it being that of a moth, instead of a beetle. Its scientific name is *Trochilium exitiosa*, and the female moth deposits her eggs upon the stem of the tree, in the same manner as the Saperda, and in summer, consequently the same preventives are applicable to both.—*Rural New Yorker.*

The Walter Grape.

Mildews a little in Central New York, but is very fine in Missouri. One of its best characteristics is its habit of *keeping well*—this, besides its excellent flavor, which in quality ranks by the side of the Delaware, is a good deal to say for a good variety.

The Flemish Beauty Pear.

We find by general testimony that this variety often exceeds the Bartlett in northern sections of the United States. In Minnesota and Wisconsin it is their principal variety, but we find that even in northern New York and Vermont it is much more productive than any other sort in our list.

Thomas F. Butterfield writes to *The Rural New Yorker:*

After twenty-one years' experience in the nursery business and grafting in a great many parts of Vermont, I have succeeded in finding eight or ten varieties of pears that will do better than the apple, and give more certain crops. I have one tree of the Buffum, twelve years old from setting, that bore full six bushels last year, and I can say with safety that pear culture will be a success in a short time in Vermont, as many are beginning to testify. We have too long neglected pear and grape culture. Our farmers are fast learning the great advantage of a fruit crop. It costs but little compared with other crops. I set over thirty-five scions last spring, in over fifteen different towns. The business has steadily increased for the whole twenty-one years of my experience. The Flemish Beauty pear stands at the head of all pears in Vermont—is perfectly hardy.

Sod and Cultivation for Trees.

A correspondent in an eastern county of this State writes us that he lately met with a case where the experiment had been tried for five continued years, for the purpose of seeing the difference between allowing young trees to stand in grass, and keeping the ground mellow by cultivation. A dwarf pear tree was planted in a large flower bed where the soil was constantly mellow, and another a short distance off in sod. The tree in cultivated soil, at the end of five years, was four times as large as the one in grass; and a standard pear tree, under similar treatment, was eighteen times as large as the other standard not cultivated. We have frequently met with similar cases, with results not greatly different from these.

Tulip Tree in England.

James Vick says that during his recent tour through the south of England, in visiting a park which contained many interesting and remarkable trees, one tree in full bloom attracted the special attention of his English friends. This was the tulip tree, and he adds, "I took no small pleasure in informing them that this was a common forest tree in America."

Horticultural Notes.

Trapping Cut-Worms in Gardens.

It is very annoying, after having set out a nice lot of sweet potatoes or cabbage plants, to see them cut down, one by one, by cut-worms. We have tried ashes, lime, soot, and, in fact, everything we have ever heard of, but never found anything effectual until, by accident, we found three or four of the worms, one morning, gathered under a small board, which had been left by some children on a sweet potato hill. Acting upon this hint, we placed small pieces of board, large chips, etc., all through the patch, and we trapped them by hundreds. The boards must be lifted early in the morning, and, on very warm days, again about noon. A little care, for a few days, will clear these pests out of the garden. One trial will satisfy any person of the merits of this plan.—*Ex.*

New Lilies.

Lilium Hansonii.—The *Rural New-Yorker*, figures this new lily. It was named after Mr. Hanson, an artist of New York, by Max Leichtlin, of Carlsruhe, Baden. It is described thus:

"This lily is of a rather coarse and gigantic structure, attaining a height of from four to six feet. The leaves are produced in whorls, and are seven to eight inches long and two broad. The flowers are borne in cluster, and the buds being nearly globular they look very much like potato balls. The full expanded flowers are about

two and a half inches in diameter, and the petals are very thick looking, more like wax than natural flowers. Their color is also very peculiar, one side of the petals being yellow with a streak of white running through the center; the other side is a brilliant yellow spotted with purple. It is not quite as showy a lily as the *Auratum*, or some of the varieties of *speciosum;* still it is one of the most interesting and valuable varieties introduced in some time."

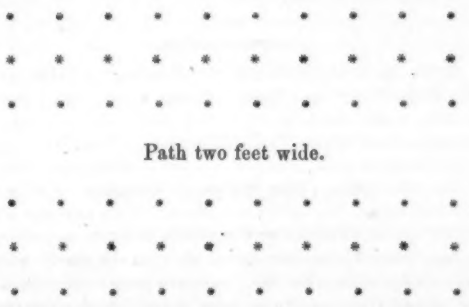
Lilium Bloomerianum (Kellogg).—During their trip to California, Ellwanger & Barry obtained this lily from Dr. Kellogg, its discoverer, who describes it thus:

"This is the most magnificent lily of the Pacific coast. Flowers large, nodding, of a beautiful orange hue, and studded with rich dark spots. It grows from six to ten feet high, and under high culture four to six stems are produced from a single bulb."

Mr. Max Leichtlin, mentioned above, has 125 distinct varieties of lilies in cultivation.

Planting Strawberries.

A modified form of hill or rather stool-culture has been suggested and practiced by Mr. J. B. Moore, whose practical good sense and eminent success in fruit culture, entitles his opinions to favorable consideration. Mr. Moore's method is as follows: In early spring to plant in rows four feet apart, or for field culture four and a half feet apart. In the rows the plants are to be from thirteen to fifteen inches apart, according to the vigor of the variety. As soon as the plants make runners, allow two runners to take root—one on each side and one foot from each plant. For the rest of the season keep the ground clean from all runners and weeds, with a hoe, round the plants, and with French's sharp tooth horse-hoe in the paths. The following diagram indicates the appearance of the rows and the relative distances:



The large stars represent the original plants and the small stars the July runners, one foot off on each side. If the original rows are four feet apart, then the path between the runners will be two feet, diminished somewhat by the overhanging of the stools. The strength given to the plants by keeping down an excess of runners will secure a larger and better crop than when the ground is covered with plants. The ease in cultivating with a hoe is manifest, probably not exceeding one-half the cost of hand-weeding the beds. It will be seen that this is essentially the hill system, with this economy of space—that instead of a foot-path for each row there are three rows for every path. For such varieties as Jucunda, Triomphe and Wilson we confidently recommend this method.—*Transactions Mass. Hort. Society.*

Door Yards.

In some very sensible directions for the planning and keeping of village door-yards, the *Country Gentleman* says: "It is important to remember, first and last, that it is better to do less, and to keep the whole surface in smooth grass, with a very few trees, than to attempt too much and fail."

Strawberries—a Large Yield.

At a recent meeting of the Warsaw Horticultural Society, Secretary Gregg stated that a plat of ground, belonging to a Mr. Willis, measuring a fraction less than five square rods, the present season, yielded three hundred and fifty quarts of Wilson's Albany strawberries, or at the rate of about three hundred and fifty bushels to the acre. The plants from which this yield was obtained were set in the spring of 1870, on ground which had been subsoiled and well underdrained. Until late in October, careful cultivation with plow and hoe was given, and early in the winter the plants were covered with forest leaves.—*The Prairie Farmer.*

A New Hardy Primrose.

Of this valuable plant *The Florist and Pomologist* says:

"It is just ten years since Mr. Fortune met with it in Japan—a basketful of blooming plants having been brought to his door. They were of course secured, but the journey home was too much for them, and despite every care, none reached England alive. Ever since that time, endeavors have been made to introduce this lovely plant, but till now without success, since the seeds have been found to lose their germinating power in the course of transmission to Europe. At last, however, perseverance has been rewarded, and plants have been raised in the establishment of Mr. Bull, of Chelsea. Our gardens have thus secured a perfectly new, thoroughly hardy, and exquisitely lovely primrose. Of the hardiness of the *Primula Japonica* there can be no doubt, since plants which have been standing all the winter, fully exposed in the trying atmosphere of London, are perfectly healthy, and came into bloom about the middle of May—some two or three weeks later than the plants which had been potted and flowered under glass.

English Walnuts.

The *American Rural Home* advises each tree-fancier to plant at least a specimen or two of English walnuts, and says it will thrive in sheltered locations in Western New York, but further south needs a rich, deep soil. It is a native of Persia, and was brought to Europe about three hundred years ago, and then to the middle portion of the Eastern States of this country, where it flourishes tolerably well. The tree grows large and handsome. The timber is valuable. It bears abundantly in most parts of England, requiring little attention. The nut has a good flavor when well matured; yet the same kind grown in Spain is quite superior, brighter, and of richer flavor. It partakes of the fine flavor of the shagbark hickory of the west (white walnut of the east), with other fine, delicate properties of its own. The *California Farmer* says no nut tree is more certain in California than the English walnut.

Guide to Fruits Arranged in the Order of Ripening.

A little pamphlet has been issued in the form of an addenda to the volume of Downing's *Selected Fruits of America*, which we consider quite valuable. It gives each month of the year, from January to December, and the names of all the best varieties of fruit which are ripe therein, whether apple, pear, cherry, apricot, plums, peach, etc.; anything, in fact, but strawberries, which of course all mature about one time.

Successful Treatment of Gooseberries.

A writer in the *Toronto Globe* says that for the past six years, as soon as grass can be cut, he spreads a quanty of newly-cut grass under his gooseberry bushes and lets it remain all summer. That treatment combined with very high cultivation and close pruning, has been a complete preventive of mildew for six years. He has had every year from that time, splendid crops of large, sound berries; some of them nearly as large as small plums.

A California Fruit Farm.

The orchards of Briggs Bros., at Marysville, Cal., are thus described by a correspondent: "Before reaching the orchard proper we rode through a field of 150 acres of castor beans, growing in the most luxuriant manner—which field, by the by, is to give way to a new orchard next year, the fruit trees for the same at present growing in the nursery by the side of the field of castor beans, and containing 25,000 one year old budded peach trees, 16,000 plum trees, 6,000 Eastern walnuts, 25,000 California walnuts, 2,000 apple trees, 500 Italian chestnut trees, etc. Passing along through this forest of young trees we arrived at the present peach orchard, consisting of 600 trees two years old, and some of them bearing this season, 150 pounds of peaches. These trees have made a remarkable growth, owing to the rich ground upon which they are planted, and in another year will make a tremendous yield of fruit. We next rode into the cherry orchard, containing 3,000 of the most thrifty young trees ever seen on the ground. Off to the south of this wonderful wilderness are 2,500 plum trees, of twelve varieties, and 500 apple trees, mostly winter varieties. Passing the peach orchard we reached the apricots, 2,200 in number, which are also two years old, and have borne a fair crop the present season.

Mulching.

Last November we neglected to mulch five trees in our garden. When the spring time came we found those five trees dead—died because they were not mulched. They were root killed. We mulched over one hundred of our trees in the same grounds. They came out just as well as we could wish. The names of the varieties of trees killed from the want of mulching are as follows: One Montreal Beauty, one Transcendent, one Lady Crab, one Standard Dutchess of Oldenburg, and one Dwarf Dutchess; three semi-crabs, and two standard varieties of the standard apple. The dead trees received the same cultivation, were planted out at the same time and under the same circumstances, but in the hurry of the season we neglected to mulch them, and as a consequence they are dead. The proof is positive, and we feel that we were properly punished for neglecting a few minutes' work. This is the second time we have lost trees under similar circumstances. This carelessness, or otherwise willful neglect, shows the importance of mulching in this climate. Nay, more, mulching is just as necessary in summer as it is in winter. It is equally as necessary in the spring and fall as it is at other seasons of the year.

By mulching in dry weather it keeps the soil moist. The dryer the soil the more beneficial the mulching. If this rule is not observed trees will not grow half as much. There is no danger of trees making too much wood in the Northwest. The more wood the better the trees will winter. Mulch, properly applied, kills all weeds and grasses. It will rot the sod around the trees. Again, it makes the soil lively and light. It will introduce heat, air, dew, rain. It shades the ground, and hence increases its fertility. In winter it prevents the ground from freezing and thawing. A steady temperature is constantly around the roots of the trees. Apple trees, and many other fruit trees, are strong feeders, and require a pretty good soil. By mulching, when the material rots, it becomes manure, and if the mulching is composed of leaves, hay, or straw, it makes a vegetable fertilizer which is very desirable. Especially is this so in orchards that are cultivated. We don't care in what circumstances a tree is set out. By liberal mulching it will grow a good deal more rapidly. It will be more hardy. It will give trees life and health. By all means mulch the trees.—*The Farmer's Union.*

Eugenia Ugni.

All who possess orchard houses should procure a plant or two of this myrtle. It fruits profusely, and possesses the most delicious flavor imaginable. In general appearance it bears a close resemblance to the common myrtle (Myrtus communis). It may be propagated freely from cuttings of the young wood in a moderate heat.—*Gardner's Weekly.*

Chinese Primula.

No plants surpass in beauty and durability of flowering for winter the varieties of Chinese Primrose. The colors are red, white, crimson, purple and pink. If placed on a shelf or stand near the glass, in a window with a southern aspect, they will soon convince you they are at home. Unlike most plants, they require a dry atmosphere; consequently the living room is adapted to their growth.

They are easy of cultivation, and almost any one can raise good early flowering plants, by sowing the seed about the first of this month, in a pot prepared as follows: Put a few pieces of broken pots in the bottom; on that put one inch of rough, lumpy soil; sow the seeds, cover lightly, water gently; put a pane of glass on the pot, and place in a shady place. In about two weeks the plants will make their appearance. Remove the glass when the plants have three or four leaves; pot them into two-inch pots, and place them under glass for a few days. When the roots begin to fill the pots, they should be put into four-inch pots. For the last potting, add one-eighth charcoal dust to the soil. This increases the brilliancy of the flowers.—*The Rural Messenger.*

New Publications.

Hyde's Agriculture.

Comparing this modest volume with the more famous one, "What I know about farming," we do not hesitate to say, the reader will gain more practical and useful ideas about the rationale of Agriculture and farm management, from the former than the latter. Mr. Hyde is an accomplished farmer (i. e., knows and practices to perfection), and this volume contains in a nut-shell the substance of his twelve Lectures before the Lowell Institute, at Boston. They were delivered in the winter of 1870, in Boston, and reported in the columns of the Springfield Republican. We remember reading them with admiration, and preserved for a long time all we could lay our hands on. We are glad to find them issued in this complete book form, at the cheap price of $2. The chapters on Manures, Roots, and Cattle Husbandry, are each worth ten dollars to every farmer. Published by American Publishing Co., Hartford, Ct.

Atwood's Country and Suburban Homes.

This volume contains 287 pages, with 33 designs of Cottages. The descriptive matter, and suggestions about building cottages of wood, brick or stone, are very excellent and practical, just such as we would be glad to see in every book of architecture. As it is issued, about one-quarter of the illustrations are good and generally pleasing but the rest, we fear, will strike the reader as very indifferent, and not likely to be copied by any one desiring to build. Price $1.50. O. Judd & Co., Publishers.

Editorial Notices.

Rapid Increase of Business.

Our friends must be patient; we do not like to delay correspondence, but we have been overburdened with work. Our mails average now 20,000 letters a year. The LADIES' FLORAL CABINET s averaging 1,000 new subscribers a month. *Bryant's Forest Trees*, and *Every Woman Her own Flower Gardener*, issued a short time since, have proved successful, and we have just printed new editions. *Window Gardening* is meeting with a heavy demand, and THE HORTICULTURIST enjoying more new subscribers and advertising patronage than ever; all have tumbled in upon us an extraordinary amount of work, and many matters have been neglected which will now, we hope, since a breathing spell has arrived, be attended to.

Inquiry.

"*Quercus*," of New Haven, Ct., will please favor THE HORTICULTURIST with his full name and address.

The Weeping Beech.